

### ABSTRACT OF THE INVENTION

Synthetic versions of a full length and termini truncated humanized green fluorescent protein based on *Ptilosarcus gurneyi* are disclosed which have been modified to the favored or most favored codons for mammalian expression systems. The disclosed encoded protein has 239 amino acid residues compared with the wild type *Ptilosarcus gurneyi* which has 238 amino acids. In the present invention, a valine residue has been added at the second position from the amino terminus and codon preference bias has been changed in a majority of the wild type codons of *Ptilosarcus gurneyi* fluorescent protein. The humanized *Ptilosarcus gurneyi* green fluorescent protein is useful as a fluorescent tag for monitoring the activities of its fusion partners using imaging based approaches.